Space Nutrition

Volume 3 | The Right Stuff | Issue #5

Balancing Act

The Neurosciences Laboratory at the Johnson Space Center studies the effects of space flight on the neurovestibular system (NVS), the nerves and organs that keep the body in its proper orientation. The inner ear is a very important part of the NVS. Organs in the inner ear help us to keep our balance by telling the brain about the motion and position of the body. Without gravity, the NVS needs to readapt and the brain has a hard time figuring out which way is up. Scientists and engineers work together to develop training programs to help astronauts to stay in space longer.

Curiosity Corner

Michael from Pennsylvania asks,

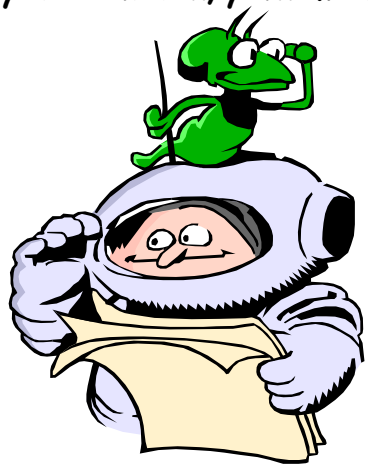
"If a baby went up into space for 47 years, would he come back having grown more than if he never went up? Or would he be like a regular person?

Space flight of any duration has many effects on the human body, including bone and muscle loss. The effects of weightlessness on human growth and development are unknown. Until we know more and can prevent health changes in adults, we won't be able to send kids (or babies) on long trips into outer space. So we can't answer your question directly, other than to say, "Just to be safe, we probably ought keep your baby brother or sister's feet on the ground!"

Send your comments or questions to:

Space Nutrition Newsletter
Nutritional Biochemistry Laboratory
Mail Code SK3
NASA - Johnson Space Center
Houston, TX 77058

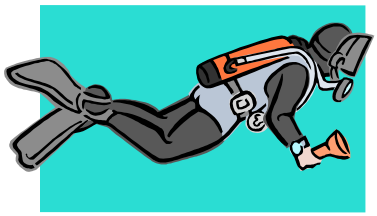
While odd years may not seem different from even years in most regards, at NASA a very special event happens in the fall of odd years - a new astronaut class is selected! Thousands of applications are sent to NASA from across the nation, and about 100 individuals are chosen for week-long interviews at the Johnson Space Center in Houston. The selection committee evaluates each of the 100 candidates by NASA's criteria to choose the next astronaut class. Each class is usually made up of 10 to 30 individuals. The 2003 selection is underway, and the new class will be announced in early 2004. There are two categories of astronauts: pilots and mission specialists. Pilots must have extensive experience in flying airplanes, while mission specialists can come from virtually any field of study. All of the astronauts have one thing in common though, they studied hard in school, in all fields. Science and math are important for obvious reasons, but all aspects of education are important: reading, writing, history, physical education, you name it.



After they have been selected, new astronauts move to Houston to work at the Johnson Space Center. In the first year they attend classes on Shuttle systems, basic science and technology, mathematics, geology, meteorology, guidance and navigation, oceanography, orbital dynamics, astronomy, physics, and materials processing. They also receive training in land and sea survival, scuba diving, and using space suits. After successfully completing their training, they wait for their turn to fly in space!

Did you know?

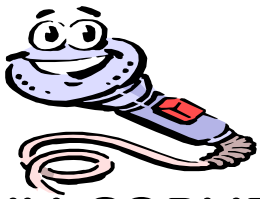
- The 2003 astronaut selection will include the selection of "Teacher in Space" candidates!
- The first class of astronauts was selected in 1959 and was known as the "Mercury 7." Their story was made into the book and movie called "The Right Stuff."
- The first class of Shuttle astronauts was selected in 1978, and included the first female astronauts.
- Mike Foale, the Commander of the Expedition 8 crew on the International Space Station (ISS), was selected as an astronaut candidate in 1987. He has flown on 3 Shuttle missions, and also spent 145 days in space on the Russian space station Mir. As of this month, he became the American with the most time spent in space!
- Astronauts train underwater in the Neutral Buoyancy Laboratory in a 40-foot-deep pool. The buoyancy of the water simulates weightlessness. Astronauts can mimic extravehicular activities using full-size models of the parts (modules) of the ISS and the Shuttle.



Word of the Month

Pharmacology

Can you guess what this word means? Look for the meaning of the "Word of the Month" in the next issue of Space Nutrition.



FUN CORNER

Can you find these words?

ISS	Physics	Education	Math
Pilot	Science	Astronaut	Shuttle
NASA	Geology	Astronomy	Teacher

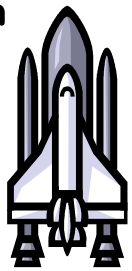
R	B	Y	O	D	P	I	S	C	M
A	T	G	H	L	I	N	A	O	Y
S	H	U	T	T	L	E	E	E	M
C	E	K	A	X	O	R	D	C	O
I	D	N	M	N	T	K	U	N	N
S	J	I	A	V	O	P	C	E	O
Y	E	U	T	S	J	R	A	I	R
H	R	E	H	C	A	E	T	C	T
P	T	R	O	G	T	V	I	S	S
Y	G	O	L	O	E	G	O	T	A
S	R	I	F	G	P	O	N	A	K

Solution to last month's crossword:

N	U	T	R	I	E	N	T	S				A		C		
U		O		C	A		O			B	A	L	L	O	O	N
T	E	M	P	E	R	A	T	U	R	E		L		N		
R		A						N		A				N	E	W
I	N	T	E	R	N	A	T	I	O	N	A	L		E		
T		O			E			T		S		O		C		A
I					O	R	D	E	R			N	O	T	E	S
O	P	T	I	O	N			D		O		G				P
N			K				H		F	R	U	I	T			I
A	S	S	E	S	S	M	E	N	T			T		B	A	R
L		T		E			A					U		E		A
		A		A		P	L	A	N	N	E	D				T
M	A	T		T			T			U		E		C		I
A		I			R		H			T				A	G	O
R		O		Z	A	R	Y	A		S	U	G	A	R		N
S	U	N			W			M				O		B		

Check out these cool NASA links for more fun space science facts!

http://www.nasa.gov/audience/forkids/index.html
http://nasajobs.nasa.gov/astronauts/
http://www.spaceflight.nasa.gov
http://spaceresearch.nasa.gov



Explore the Nutritional Biochemistry Laboratory's website for more information about nutrition and space.

http://haco.jsc.nasa.gov/biomedical/nutrition/